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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,135	12/15/2003	Thomas E. Creamer	BOC9-2003-0056 (427)	3657

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EXAMINER	
FIGUEROA, MARISOL	

ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/736,135	CREAMER ET AL.	
	Examiner	Art Unit	
	Marisol Figueroa	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9,11-45 and 47-59* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9, 11-45 and 47-59* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/24/2006 has been entered.

Response to Arguments

3. Applicant's arguments with respect to claims 1, 7, 13, 15, 20, 22, 31-37, 43, 49, 51, 56, and 58 have been considered but are moot in view of the new ground(s) of rejection.

4. With respect to claim 24, it is noted that in Applicant's remarks states that independent claim 24 was amended, however, there is no amendment shown to claim 24. Therefore, the previous rejection to claim 24 is maintained.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary

skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 13, 14, 48, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fors et al. (US 2004/0203788 A1) in view of Ozluturk (US 6,122,511).

Regarding claim 13, Fors discloses a method of roaming between a cellular network and a wireless network comprising the steps of:

during an established cellular call, detecting a signal from the wireless network (p.0015, lines 5-7; the mobile station while is being serviced by a cellular base station, e.g. established cellular call, monitors WLAN availability, e.g. detect signals from wireless networks);

comparing a measure of strength of the signal received from the wireless network with a measure of strength of a signal received from the cellular network; and initiating a handoff of the cellular call from the cellular network to the wireless network according to said comparing step (p.0015, lines 5-11; according to the relative signal strength, e.g. comparison, of the cellular and WLAN the mobile station initiates handoff).

Fors fail to disclose wherein said initiating step comprises causing the mobile communications device to attenuate signals transmitted from the mobile communications device to the cellular network and thereby causing the cellular network to effect handoff.

However, these features are well known in the art and Ozluturk is evidence of the fact. Ozluturk teaches a method of handover between of a mobile subscriber unit to a candidate base station requiring less power. The mobile station searches for a candidate base stations to choose one to effect handover, then, when still linked with the original base station the candidate base station sends power control commands to the mobile subscriber unit to lower the transmitting power that causes the mobile subscriber unit to decrease its transmission power (i.e. attenuate transmitted

signals). Then handoff is performed from the original base station to the candidate base station (col. 5, line 49 – col. 6, lines 1-7).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to cause the mobile communications device to attenuate a signal transmitted from the mobile communications device to the cellular network and thereby causing the cellular network to effect the handoff, as suggested by Ozluturk, in order to trigger a handoff to a candidate base station that not necessarily has the highest signal strength but is preferred by the mobile communications device.

Regarding claim 14, the combination of Fors and Ozluturk disclose the method of claim 13, Fors discloses wherein the wireless network is configured according to at least one of the 802.11, 802.15.3, or 802.16 communications protocols (p.0016, lines 8-10).

Regarding claim 49, Fors discloses a machine readable storage, having stored thereon a computer program having a plurality of code sections executable by a machine for causing the machine to perform the steps of:

during an established cellular call over a cellular network, detecting a signal from a wireless network (p.0015, lines 5-7; the mobile station while is being serviced by a cellular base station, e.g. established cellular call, monitors WLAN availability, e.g. detect signals from wireless networks);

comparing a measure of strength of the signal received from the wireless network with a measure of strength of a signal received from the cellular network; and initiating a handoff of the cellular call from the cellular network to the wireless network according to said comparing step (p.0015, lines 5-11; according to the relative signal strength, e.g. comparison, of the cellular and WLAN the mobile station initiates handoff).

Fors inherently has the *machine readable storage* medium given that Fors shows a process, the process would be implemented by a processor that requires a "computer readable storage", e.g. a RAM, to function.

Fors fail to disclose wherein said initiating step comprises causing the mobile communications device to attenuate signals transmitted from the mobile communications device to the cellular network and thereby causing the cellular network to effect handoff.

However, these features are well known in the art and Ozluturk is evidence of the fact. Ozluturk teaches a method of handover between of a mobile subscriber unit to a candidate base station requiring less power. The mobile station searches for a candidate base stations to choose one to effect handover, then, when still linked with the original base station the candidate base station sends power control commands to the mobile subscriber unit to lower the transmitting power that causes the mobile subscriber unit to decrease its transmission power (i.e. attenuate transmitted signals). Then handoff is performed from the original base station to the candidate base station (col. 5, line 49 – col. 6, lines 1-7).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to cause the mobile communications device to attenuate a signal transmitted from the mobile communications device to the cellular network and thereby causing the cellular network to effect the handoff, as suggested by Ozluturk, in order to trigger a handoff to a candidate base station that not necessarily has the highest signal strength but is preferred by the mobile communications device.

Regarding claim 50, the combination of Fors and Ozluturk disclose the machine readable storage of claim 49, Fors discloses wherein the wireless network is configured according to at least one of the 802.11, 802.15.3, or 802.16 communications protocols (p.0016, lines 8-10).

7. **Claims 20, 21, 22, 23, 33, 35, 36, and 56-59** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. (US 2003/0134636 A1) in view of Ozluturk.

Regarding claim 20, Sundar discloses a method of roaming between a cellular network and a wireless network comprising the steps of:

during an established call over the wireless network, detecting the cellular network; establishing a communications link with a mobile data base station of the cellular network, such that a streaming session in the wireless network over which the call is conducted is terminated; and continuing the call over a voice channel of the cellular network (p.0077, lines 1-5; p.0078, lines 1-7; when the mobile station engaged in a telephone call through the WLAN and roams to the cellular network, it detects a signal from the cellular network and if the signal strength is stronger than the signal from WLAN, the mobile station initiates a handover that transfers the current call to the cellular network, therefore, terminating the link with the WLAN).

Sundar fail to disclose wherein the termination is caused in response to the mobile communication device attenuating signals transmitted from the mobile communication device to the wireless network.

However, Ozluturk teaches a method of handover from a present base station to a candidate base station, when the mobile unit chooses the candidate base station which has less transmit power than the present base station, then the candidate base station sends power control commands which causes the mobile unit to lower its transmission power and causes the mobile unit to abandon the first communication link with the current base station and resume communications with the candidate base station.

Therefore, it would have been obvious to a person having ordinary skill in the art, for the termination being caused in response to the mobile communication device attenuating signals

transmitted from the mobile communications device to the wireless network, as suggested by Ozluturk, because the attenuation of the signals causes the handoff of the communication, and thus weakens the original link making it useless for communication.

Regarding claim 21, the combination of Sundar and Ozluturk disclose the method of claim 20, wherein the wireless network is configured according to at least one of the 802.11, 802.15.3, or 802.16 communications protocols (p.0021, lines 1-7).

Regarding claims 56 and 57, the claims are rejected over the same reasons stated about claims 20 and 21 accordingly, as they recite the same limitations of claims 20 and 21. See remarks about claims 20 and 21 above.

Regarding claim 22, Sundar discloses a method of roaming between a cellular network and a wireless network comprising the steps of:

during an established call conducted over the wireless network using a streaming session, detecting a signal from the cellular network (p.0077, lines 1-5);

comparing a measure of strength of the signal received from the cellular network with a measure of strength of a signal received from the wireless network; and initiating a handoff of the call from the wireless network to the cellular network based on said comparing step (p.0078, lines 1-7; the mobile station while engaged in a call using the WLAN network initiate handoff by informing to the serving MSC that a handoff is required, this message is triggered when the mobile station senses the WLAN and the WWAN and chooses one of the networks based on the relative RF strengths of the WLAN and the WWAN).

Sundar fail to disclose wherein said initiating step comprises causing the mobile communications device to attenuate signals transmitted from the mobile communications device to

the wireless network and thereby causing the cellular network and thereby causing the handoff to occur.

However, these features are well known in the art and Ozluturk is evidence of the fact. Ozluturk teaches a method of handover between of a mobile subscriber unit to a candidate base station requiring less power. The mobile station searches for a candidate base stations to choose one to effect handover, then, when still linked with the original base station the candidate base station sends power control commands to the mobile subscriber unit to lower the transmitting power that causes the mobile subscriber unit to decrease its transmission power (i.e. attenuate transmitted signals). Then handoff is performed from the original base station to the candidate base station (col. 5, line 49 – col. 6, lines 1-7).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to cause the mobile communications device to attenuate a signal transmitted from the mobile communications device to the wireless network and thereby causing the wireless network to effect the handoff, as suggested by Ozluturk, in order to trigger a handoff to a candidate base station that not necessarily has the highest signal strength but is preferred by the mobile communications device.

Regarding claim 23, the combination of Sundar and Ozluturk disclose the method of claim 22, Sundar discloses wherein the wireless network is configured according to at least one of the 802.11, 802.15.3, or 802.16 communications protocols (p.0021, lines 1-7).

Regarding claims 58 and 59, the claims are rejected over the same reasons stated about claims 22 and 23 accordingly, as they recite the same limitations of claims 22 and 23. See remarks about claims 22 and 23 above.

Regarding claim 33, Sundar discloses a system for roaming between a cellular network and a wireless network comprising: means for detecting a signal from the wireless network during an established cellular call (p.0073; p.0077, lines 1-5); means for comparing a measure of strength of the signal received from the wireless network with a measure of strength of a signal received from the cellular network; and means within said mobile communications device for initiating a handoff of the cellular call from the cellular network to the wireless network according to a comparison made by said means for comparing (p.0073; p.0078, lines 1-7; the mobile station while engaged in a call using the WLAN network initiate handoff by informing to the serving MSC that a handoff is required, this message is triggered when the mobile station senses the WLAN and the WWAN and chooses one of the networks based on the relative RF strengths of the WLAN and the WWAN).

Sundar fail to disclose wherein said means for initiating causing said mobile communications device to attenuate a signal transmitted from said mobile communications device to said cellular network.

However, these features are well known in the art and Ozluturk is evidence of the fact. Ozluturk teaches a method of handover between of a mobile subscriber unit to a candidate base station requiring less power in where the decision of handoff is controlled by the mobile subscriber unit. The mobile station searches for a candidate base stations to choose one to effect handover, then, when still linked with the original base station the candidate base station sends power control commands to the mobile subscriber unit to lower the transmitting power that causes the mobile subscriber unit to decrease its transmission power (i.e. attenuate transmitted signals). Then handoff is performed from the original base station to the candidate base station (col. 5, line 49 – col. 6, lines 1-7).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, wherein said means for initiating cause the mobile communications device to attenuate a signal transmitted from the mobile communications device to the cellular network and thereby causing the cellular network to effect the handoff, as suggested by Ozluturk, in order to trigger a handoff to a candidate base station that not necessarily has the highest signal strength but is preferred by the mobile communications device.

Regarding claim 35, Sundar discloses a system for roaming between a cellular network and a wireless network comprising: means for detecting the cellular network during an established call over the wireless network (p.0073; p.0077, lines 1-5); means for establishing a communications link with a mobile data base station of the cellular network (p.0073; WWAN air interface protocol), such that a streaming session in the wireless network over which the call is conducted is terminated; and means for continuing the call over a voice channel of the cellular network (p.0078, lines 1-7; when the mobile station engaged in a telephone call through the WLAN and roams to the cellular network, it detects a signal from the cellular network and if the signal strength is stronger than the signal from WLAN, the mobile station have means to initiate a handover that transfers the current call to the cellular network).

Sundar fail to disclose wherein said means for establishing comprising a means within a mobile communications device for causing said mobile communications device to attenuate a signal transmitted from said mobile communications device to the wireless network.

However, Ozluturk teaches a method for establishing a communication with a candidate base station, when the mobile unit chooses the candidate base station which has less transmit power than the present base station, then the candidate base station sends power control commands which causes the mobile unit to lower its transmission power and causes the mobile unit to abandon the

first communication link with the current base station and resume communications with the candidate base station.

Therefore, it would have been obvious to a person having ordinary skill in the art, for the mobile communications device to comprise means for causing said mobile communication device to attenuate a signal transmitted from said mobile communications device to the wireless network, as suggested by Ozluturk, because the attenuation of the signals causes the handoff of the communication to a preferred base station.

Regarding claim 36, Sundar discloses a system for roaming between a cellular network and a wireless network comprising: means for detecting a signal from the cellular network during an established call conducted over the wireless network using a streaming session (p.0073; p.0077, lines 1-5); means for comparing a measure of strength of the signal received from the cellular network with a measure of strength of a signal received from the wireless network; and means within a mobile communications device for initiating a handoff of the wireless call from the wireless network to the cellular network according to a comparison made by said means for comparing (p.0073; p.0078, lines 1-7; the mobile station while engaged in a call using the WLAN network initiate handoff by informing to the serving MSC that a handoff is required, this message is triggered when the mobile station senses the WLAN and the WWAN and chooses one of the networks based on the relative RF strengths of the WLAN and the WWAN).

Sundar fail to disclose wherein said means for initiating causing said mobile communications device to attenuate signals transmitted from said mobile communications device to the wireless network.

However, these features are well known in the art and Ozluturk is evidence of the fact. Ozluturk teaches a method of handover between of a mobile subscriber unit to a candidate base

station requiring less power in where the decision of handoff is controlled by the mobile subscriber unit. The mobile station searches for a candidate base stations to choose one to effect handover, then, when still linked with the original base station the candidate base station sends power control commands to the mobile subscriber unit to lower the transmitting power that causes the mobile subscriber unit to decrease its transmission power (i.e. attenuate transmitted signals). Then handoff is performed from the original base station to the candidate base station (col. 5, line 49 – col. 6, lines 1-7).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, wherein said means for initiating cause the mobile communications device to attenuate a signal transmitted from the mobile communications device to the wireless network, as suggested by Ozluturk, in order to trigger a handoff to a candidate base station that not necessarily has the highest signal strength but is preferred by the mobile communications device.

8. **Claims 1-4, 31, and 37-40** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in views of Ibe et al. (US 2004/0087307), Fors et al., and Ozluturk.

Regarding claim 1, Sundar discloses a method of roaming between a cellular network and a wireless network (p.0057, lines 1-5; p.0080, lines 1-6) comprising the steps of:

receiving an invitation over the wireless network (p.0083, lines 1-6; p.0084, lines 1-13; p.0085, lines 4-5; the target MSC, e.g. WLAN MSC, receives a handoff request [Fig. 20, SIP INVITE] from the mobile station when it senses the RF strength of the WLAN network); wherein the invitation is sent from a mobile communications device engaged in a cellular call over a cellular voice channel (p.0084, lines 10-12);

sending an acknowledgement of the invitation to the mobile communications device over the wireless network (p.0084, lines 13-14; the target MSC acknowledges the request [Fig.20, SIP 200 OK]); and

initiating a handoff (p.0084, lines 14-31; the MSC sends an HO COMMAND to the MS and the MS acknowledges the command and the handoff is commenced by the BSC), wherein the established cellular call is switched from the cellular network to the wireless network (p.0057, lines 1-6; the telephone calls between the WWAN and WLAN networks).

Sundar fails to disclose the step of authenticating the mobile communications device over the wireless network. Ibe discloses a method of seamless roaming between wireless local area networks and cellular carrier networks (abstract, lines 1-6) and teaches that when a mobile device happens to be on the WLAN goes through an initialization process in which the mobile device sends a registration message to an authentication server that authenticates the mobile device (p.0017, lines 1-8). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to authenticate the mobile communications device over the wireless network as taught by Ibe, since it is part of an initialization process the mobile device has to go through in order to be authorized to receive service from the wireless network.

The combination of Sundar and Ibe fails to disclose wherein the handoff was initiated based on the comparison of the strength of detected signals from both the cellular network and the wireless network. However, Fors teaches a method for handoff from a cellular wireless network to a non-cellular wireless network (e.g. WLAN), in which a dual mode Mobile Station can determine when a handoff to a non-cellular network is preferred, by for example monitoring the WLAN availability while is being served by a cellular BS and based on conditions like the relative signal strength of the cellular and WLAN (e.g. comparison), the MA may request handing to the WLAN

(abstract; p.0015). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention, to compare the strength of the detected signals from both the cellular network and wireless network and initiate a handoff based on the comparison as suggested by Fors, because by comparing the signal strength of both networks the mobile station can determine when handoff to the WLAN network is preferred and request the handing.

The combination of Sundar, Ibe, and Fors fail to disclose wherein the initiating the handoff comprises causing the mobile communications device to attenuate a signal transmitted from the mobile communications device to the cellular network and thereby causing the cellular network to effect the handoff.

However, these features are well known in the art and Ozluturk is evidence of the fact. Ozluturk teaches a method of handover between of a mobile subscriber unit to a candidate base station requiring less power. The mobile station searches for a candidate base stations to choose one to effect handover, then, when still linked with the original base station the candidate base station sends power control commands to the mobile subscriber unit to lower the transmitting power that causes the mobile subscriber unit to decrease its transmission power (i.e. attenuate transmitted signals). Then handoff is performed from the original base station to the candidate base station (col. 5, line 49 – col. 6, lines 1-7).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to cause the mobile communications device to attenuate a signal transmitted from the mobile communications device to the cellular network and thereby causing the cellular network to effect the handoff, as suggested by Ozluturk, in order to trigger a handoff to a candidate base station that not necessarily has the highest signal strength but is preferred by the mobile communications device.

Regarding claim 2, the combination of Sundar, Ibe, Fors, and Ozluturk disclose the method of claim 1, Sundar discloses wherein the wireless network is configured according to at least one of the 802.11, 802.15.3, or 802.16 communications protocols (p.0021, lines 1-7; a WLAN network according to the 802.xx protocols).

Regarding claim 3, the combination of Sundar, Ibe, Fors, and Ozluturk disclose the method of claim 1, Sundar discloses wherein the invitation is formatted using Session Initiation Protocol (p.0057, lines 13-17; p.0084, lines 10-13; the handoff request message, i.e. invitation, is sent using SIP).

Regarding claim 4, the combination of Sundar, Ibe, Fors, and Ozluturk disclose the method of claim 1, Sundar discloses wherein said initiating step comprises the step of a gateway sending a communication to a mobile switching center indicating that the mobile communications device has received a signal having a minimum amount of power from a wireless access point in the wireless network (p.0084, lines 1-14; the handoff starts when the BSC serving the mobile station decides that handoff is required based on information received from MS using the Network Sensing Method [sensing the RF strength in the proximity of the WLAN for deciding when to start using the WLAN network] and sends a handoff required message to the Source MSC, it is inherent to recognize that the handoff required message is triggered by a minimum amount of power received at the MS, therefore the handoff required message is an indication that a received signal contains a minimum amount of power from an access point of a WLAN).

Regarding claim 31, Sundar discloses a system for roaming for roaming between a cellular network and a wireless network (abstract, lines 1-4; p.0057, lines 1-5; p.0080, lines 1-6) comprising:

means for receiving an invitation over the wireless network (p.0083, lines 1-6; p.0084, lines 1-13; p.0085, lines 4-5; the target MSC, e.g. WLAN MSC, receives a handoff request [Fig. 20, SIP

INVITE] from the mobile station when it senses the RF strength of the WLAN network); wherein the invitation is sent from a mobile communications device engaged in a cellular call over a cellular voice channel (p.0084, lines 10-12);

means for sending an acknowledgement of the invitation to the mobile communications device over the wireless network (p.0084, lines 13-14; the target MSC sends an acknowledgement of the request [Fig.20, SIP 200 OK]); and

means for initiating a handoff (p.0084, lines 14-31; the MSC initiates the handoff sending an HO COMMAND to the MS), wherein the established cellular call is switched from the cellular network to the wireless network (p.0057, lines 1-6; the telephone calls between the WWAN and WLAN networks).

Sundar fails to disclose means for authenticating the mobile communications device over the wireless network. Ibe discloses a method of seamless roaming between wireless local area networks and cellular carrier networks (abstract, lines 1-6) and teaches that when a mobile device happens to be tuned on in the WLAN goes through an initialization process in which the mobile device sends a registration message to an authentication server that authenticates the mobile device (p.0017, lines 1-8). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to include means for authentication, i.e. authentication server, to authenticate the communications device over the wireless network as taught by Ibe, in order to initialize the mobile device and be authorized to receive service from the wireless network.

The combination of Sundar and Ibe fails to disclose wherein the system comprises means within the mobile communications device for comparing the signal strength of detected signals from both the cellular network and the wireless network and initiating the handoff from the comparison. However, Fors teaches a method for handoff from a cellular wireless network to a non-cellular

wireless network (e.g. WLAN), in which a dual mode Mobile Station can determine when a handoff to a non-cellular network is preferred, by for example monitoring the WLAN availability while is being served by a cellular BS and based on conditions like the relative signal strength of the cellular and WLAN (e.g. comparison), the MA may request handing to the WLAN (abstract; p.0015). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention, to compare the strength of the detected signals from both the cellular network and wireless network and initiate a handoff based on the comparison as suggested by Fors, because by comparing the signal strength of both networks the mobile station can determine when handoff to the WLAN network is preferred and request the handing.

The combination of Sundar, Ibe, and Fors fail to disclose wherein said means for initiating cause the mobile communications device to attenuate signals transmitted from the mobile communications device to the cellular network so as to cause the cellular network to effect the handoff.

However, these features are well known in the art and Ozluturk is evidence of the fact. Ozluturk teaches a method of handover between of a mobile subscriber unit to a candidate base station requiring less power in where the decision of handoff is controlled by the mobile subscriber unit. The mobile station searches for a candidate base stations to choose one to effect handover, then, when still linked with the original base station the candidate base station sends power control commands to the mobile subscriber unit to lower the transmitting power that causes the mobile subscriber unit to decrease its transmission power (i.e. attenuate transmitted signals). Then handoff is performed from the original base station to the candidate base station (col. 5, line 49 – col. 6, lines 1-7).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, wherein said means for initiating cause the mobile communications device to attenuate a signal transmitted from the mobile communications device to the cellular network and thereby causing the cellular network to effect the handoff, as suggested by Ozluturk, in order to trigger a handoff to a candidate base station that not necessarily has the highest signal strength but is preferred by the mobile communications device.

Regarding claim 37, Sundar discloses a machine readable storage, having stored thereon a computer program having a plurality of code sections executable by a machine for causing the machine to perform the steps of:

receiving an invitation over the wireless network (p.0083, lines 1-6; p.0084, lines 1-13; p.0085, lines 4-5; the target MSC, e.g. WLAN MSC, receives a handoff request [Fig. 20, SIP INVITE] from the mobile station when it senses the RF strength of the WLAN network); wherein the invitation is sent from a mobile communications device engaged in a cellular call over a cellular voice channel (p.0084, lines 10-12);

sending an acknowledgement of the invitation to the mobile communications device over the wireless network (p.0084, lines 13-14; the target MSC acknowledges the request [Fig.20, SIP 200 OK]); and

initiating a handoff (p.0084, lines 14-31; the MSC sends an HO COMMAND to the MS and the MS acknowledges the command and the handoff is commenced by the BSC), wherein the established cellular call is switched from the cellular network to the wireless network (p.0057, lines 1-6; the telephone calls between the WWAN and WLAN networks). Sundar inherently has the *machine readable storage* medium given that Sundar shows a process, the process would be implemented by a processor that requires a "computer readable storage", e.g. a RAM, to function.

Sundar fails to disclose the step of authenticating the mobile communications device over the wireless network. Ibe discloses a method of seamless roaming between wireless local area networks and cellular carrier networks (abstract, lines 1-6) and teaches that when a mobile device happens to be tuned on in the WLAN goes through an initialization process in which the mobile device sends a registration message to an authentication server that authenticates the mobile device (p.0017, lines 1-8). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to authenticate the mobile communications device over the wireless network as taught by Ibe, since it is part of an initialization process the mobile device has to go through in order to be authorized to receive service from the wireless network.

However, the combination of Sundar and Ibe fails to disclose wherein the system comprises means for comparing the signal strength of detected signals from both the cellular network and the wireless network and initiating the handoff from the comparison. Fors teaches a method for handoff from a cellular wireless network to a non-cellular wireless network (e.g. WLAN), in which a dual mode Mobile Station can determine when a handoff to a non-cellular network is preferred, by for example monitoring the WLAN availability while is being served by a cellular BS and based on conditions like the relative signal strength of the cellular and WLAN (e.g. comparison), the MA may request handing to the WLAN (abstract; p.0015). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention, to compare the strength of the detected signals from both the cellular network and wireless network and initiate a handoff based on the comparison as suggested by Fors, because by comparing the signal strength of both networks the mobile station can determine when handoff to the WLAN network is preferred and request the handing.

The combination of Sundar, Ibe, and Fors fail to disclose wherein the initiating the handoff comprises causing the mobile communications device to attenuate a signal transmitted from the mobile communications device to the cellular network and thereby causing the cellular network to effect the handoff.

However, these features are well known in the art and Ozluturk is evidence of the fact. Ozluturk teaches a method of handover between of a mobile subscriber unit to a candidate base station requiring less power. The mobile station searches for a candidate base stations to choose one to effect handover, then, when still linked with the original base station the candidate base station sends power control commands to the mobile subscriber unit to lower the transmitting power that causes the mobile subscriber unit to decrease its transmission power (i.e. attenuate transmitted signals). Then handoff is performed from the original base station to the candidate base station (col. 5, line 49 – col. 6, lines 1-7).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to cause the mobile communications device to attenuate a signal transmitted from the mobile communications device to the cellular network and thereby causing the cellular network to effect the handoff, as suggested by Ozluturk, in order to trigger a handoff to a candidate base station that not necessarily has the highest signal strength but is preferred by the mobile communications device.

Regarding claims 38, 39, and 40, the claims are rejected over the same reasons stated about claims 2, 3, and 4 accordingly, as they recite the same limitations of claims 38, 39, and 40. See remarks about claims 2, 3, and 4 above.

9. **Claims 5 and 41** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in views of Ibe et al., Fors et al., and Ozluturk, and further in view of Chaskar et al. (US 2004/0090937 A1).

Regarding claim 5, the combination of Sundar, Ibe, Fors, and Ozluturk disclose the method of claim 4, however fails to address wherein said initiating step further comprises the step of setting up an Internet Protocol streaming session over the Internet and the wireless network to which the cellular call is switched. Chaskar teaches that a user while in the coverage area of a WLAN can initiate an Internet session such as a voice over IP (VoIP) call or a multimedia conferencing call (p.0020, lines 1-6). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to setting up an Internet Protocol streaming session over the Internet and the wireless network as taught by Chaskar, because a wireless network, i.e. WLAN, support the initiation of Internet sessions.

Regarding claim 41, the claim is rejected about the same reasons stated about claim 5, as it recites the same limitations of claim 5. See remarks about claim 5 above.

10. **Claims 6 and 42** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in views of Ibe et al., Fors et al., Ozluturk, and Chaskar et al., and further in view of Pan et al. (US 2004/0192294 A1).

Regarding claim 6, the combination of Sundar, Ibe, Fors, Ozluturk, and Chaskar disclose the method of claim 5, but fails to disclose further comprising the step of tearing down the cellular call. Pan teaches a method and apparatus that enables handover of a mobile station between a cellular network and a wireless network, a media gateway perform handover of a call from one network to another, it establishes two connections simultaneously with both networks (e.g. first call leg and second call leg) and then handovers the communication from the first call leg to the second

call leg, and disconnects the first call leg after handover has been completed (abstract; p.0023-0025). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to tear down the cellular call after the handoff is complete as suggested by Pan, because the wireless communication device does not need to continue the cellular call when the handoff to the wireless network is successful.

Regarding claim 42, the claim is rejected about the same reasons stated about claim 6, as it recites the same limitations of claim 6. See remarks about claim 6 above.

11. **Claims 7-9, 11, 12, 32, 43-45, 47, and 48** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in views of Ibe et al., and Ozluturk.

Regarding claim 7, Sundar discloses a method of roaming between a cellular network and a wireless network (p.0057, lines 1-5; p.0080, lines 1-6) comprising the steps of:

during an established cellular call using a cellular voice channel, detecting the wireless network within a mobile communications device (p.0080; p.0083, lines 1-6; p.0084, lines 1-13; p.0085, lines 4-5; a mobile station while roaming senses the RF strength in the proximity of the WLAN);

sending an invitation over the wireless network (p.0083, lines 1-6; p.0084, lines 1-13; p.0085, lines 4-5; the mobile station sends a handoff request [Fig. 20, SIP INVITE] to the target MSC, e.g. WLAN MSC, when it senses the RF strength of the WLAN network while engaged in a call) to a gateway interface linking the cellular network with the Internet (Fig. 15, WLAN MSC 320 linked to IP, i.e. internet);

receiving an acknowledgement of the invitation (p.0084, lines 13-14; the target MSC acknowledges the request [Fig.20, SIP 200 OK]); and

initiating a handoff (p.0084, lines 14-31; the MSC sends an HO COMMAND to the MS and the MS acknowledges the command and the handoff is commenced by the BSC), wherein the established cellular call is switched from the cellular network to the wireless network (p.0057, lines 1-6; the telephone calls between the WWAN and WLAN networks).

Sundar fails to disclose the step of authenticating the mobile communications device over the wireless network. Ibe discloses a method of seamless roaming between wireless local area networks and cellular carrier networks (abstract, lines 1-6) and teaches that when a mobile device happens to be tuned on in the WLAN goes through an initialization process in which the mobile device sends a registration message to an authentication server that authenticates the mobile device (p.0017, lines 1-8). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to authenticate the mobile communications device over the wireless network as taught by Ibe, since it is part of an initialization process the mobile device has to go through in order to be authorized to receive service from the wireless network.

However, the combination of Sundar and Ibe fails to disclose wherein the initiating comprises causing the mobile communications device to attenuate a signal provided to the cellular network from the mobile communications device, thereby causing the cellular network to handoff the cellular call.

However, these features are well known in the art and Ozluturk is evidence of the fact. Ozluturk teaches a method of handover between of a mobile subscriber unit to a candidate base station requiring less power. The mobile station searches for a candidate base stations to choose one to effect handover, then, when still linked with the original base station the candidate base station sends power control commands to the mobile subscriber unit to lower the transmitting power that causes the mobile subscriber unit to decrease its transmission power (i.e. attenuate transmitted

signals). Then handoff is performed from the original base station to the candidate base station (col. 5, line 49 – col. 6, lines 1-7).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to cause the mobile communications device to attenuate a signal transmitted from the mobile communications device to the cellular network and thereby causing the cellular network to effect the handoff, as suggested by Ozluturk, in order to trigger a handoff to a candidate base station that not necessarily has the highest signal strength but is preferred by the mobile communications device.

Regarding claim 8, the combination of Sundar, Ibe, and Ozluturk disclose the method of claim 7, Sundar further discloses wherein the invitation is sent only if a signal detected from the wireless network is more powerful than a signal from the cellular network (p.0080; p.0083; p.0084, lines 1-13; the mobile station sends an Invite, e.g. handoff request, to the network when it senses the RF strength in the proximity of the WLAN and determines that needs to handoff, e.g. signal from the WLAN is more powerful than the signal from the cellular network).

Regarding claim 9, the combination of Sundar, Ibe, and Ozluturk disclose the method of claim 7, Sundar further discloses wherein the wireless network is configured according to at least one of the 802.11, 802.15.3, or 802.16 communications protocols (p.0021, lines 1-7; a WLAN network according to the 802.xx protocols).

Regarding claim 11, the combination of Sundar, Ibe, and Ozluturk disclose the method of claim 7, Sundar further discloses wherein said initiating step comprises the step of a gateway sending a communication to a mobile switching center indicating that the mobile communications device has received a signal of adequate power from an access point in the wireless network (p.0084, lines 1-14; the handoff starts when the BSC serving the mobile station decides that handoff is required based

on information received from MS using the Network Sensing Method [sensing the RF strength in the proximity of the WLAN for deciding when to start using the WLAN network] and sends a handoff required message to the Source MSC, it is inherent to recognize that the handoff required message is triggered by a signal of adequate power received at the MS, therefore the handoff required is a message is an indication that a received signal contains adequate power from the WLAN to handoff to that network).

Regarding claim 12, the combination of Sundar, Ibe, and Ozluturk disclose the method of claim 7, Sundar further discloses wherein the acknowledgement is sent from a gateway interface (Fig. 15, WLAN MSC 302 between IP and PSTN/TDM) between the cellular network and the Internet (p.0084, lines 10-14; the target MSC, i.e. WLAN MSC, sends an acknowledgement to the mobile station).

Regarding claim 32, Sundar discloses a system for roaming between a cellular network and a wireless network (abstract, lines 1-4; p.0057, lines 1-5; p.0080, lines 1-6) comprising:

means for detecting the wireless network within a mobile communications device during an established cellular call using a cellular voice channel (p.0080; p.0083, lines 1-6; p.0084, lines 1-13; p.0085, lines 4-5; a mobile station while roaming senses the RF strength in the proximity of the WLAN, it is inherently that the mobile station has means for detecting the wireless network, e.g. antenna);

means for sending an invitation over the wireless network (p.0083, lines 1-6; p.0084, lines 1-13; p.0085, lines 4-5; the mobile station sends a handoff request [Fig. 20, SIP INVITE] to the target MSC, e.g. WLAN MSC, inherently the mobile station has means for sending an invitation, e.g. transmitter);

means for receiving an acknowledgement of the invitation (p.0084, lines 13-14; the target MSC sends an acknowledgement to the MS [Fig.20, SIP 200 OK]; inherently the MS has means for receiving an acknowledgement, e.g. receiver); and

means for initiating a handoff (p.0084, lines 14-31; the MSC are the means for initiating handoff because it sends an HO COMMAND to the MS and after the MS acknowledges it, the handoff begins by the BSC), wherein the established cellular call is switched from the cellular network to the wireless network (p.0057, lines 1-6; the telephone calls between the WWAN and WLAN networks).

Sundar fails to disclose means for authenticating the mobile communications device over the wireless network. Ibe discloses a method of seamless roaming between wireless local area networks and cellular carrier networks (abstract, lines 1-6) and teaches that when a mobile device happens to be tuned on in the WLAN goes through an initialization process in which the mobile device sends a registration message to an authentication server that authenticates the mobile device (p.0017, lines 1-8). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to include means for authentication, i.e. authentication server, to authenticate the communications device over the wireless network as taught by Ibe, in order to initialize the mobile device and be authorized to receive service from the wireless network.

The combination of Sundar and Ibe fail to disclose means within said mobile communications device for initiating handoff wherein said means for initiating causing said mobile communications device to attenuate a signal provided to the cellular network from the mobile communications device, thereby causing the cellular network to handoff the cellular call.

However, these features are well known in the art and Ozluturk is evidence of the fact. Ozluturk teaches a method of handover between of a mobile subscriber unit to a candidate base

station requiring less power in where the decision of handoff is controlled by the mobile subscriber unit. The mobile subscriber unit searches for a candidate base stations to choose one to effect handover, then, when still linked with the original base station the candidate base station sends power control commands to the mobile subscriber unit to lower the transmitting power that causes the mobile subscriber unit to decrease its transmission power (i.e. attenuate transmitted signals). Then handoff is performed from the original base station to the candidate base station (col. 5, line 49 – col. 6, lines 1-7).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, wherein said means for initiating cause the mobile communications device to attenuate a signal provided from the mobile communications device to the cellular network and thereby causing the cellular network to handoff the cellular call, as suggested by Ozluturk, in order to trigger a handoff to a candidate base station that not necessarily has the highest signal strength but is preferred by the mobile communications device.

Regarding claim 43, Sundar discloses a machine readable storage, having stored thereon a computer program having a plurality of code sections executable by a machine for causing the machine to perform the steps of:

during an established cellular call using a cellular voice channel, detecting the wireless network within a mobile communications device (p.0080; p.0083, lines 1-6; p.0084, lines 1-13; p.0085, lines 4-5; a mobile station while roaming senses the RF strength in the proximity of the WLAN);

sending an invitation over the wireless network (p.0083, lines 1-6; p.0084, lines 1-13; p.0085, lines 4-5; the mobile station sends a handoff request [Fig. 20, SIP INVITE] to the target MSC, e.g. WLAN MSC, when it senses the RF strength of the WLAN network while engaged in a call) to a

gateway interface linking the cellular network with the Internet (Fig. 15, WLAN MSC 320 linked to IP, i.e. internet);

receiving an acknowledgement of the invitation (p.0084, lines 13-14; the target MSC acknowledges the request [Fig.20, SIP 200 OK]); and

initiating a handoff (p.0084, lines 14-31; the MSC sends an HO COMMAND to the MS and the MS acknowledges the command and the handoff is commenced by the BSC), wherein the established cellular call is switched from the cellular network to the wireless network (p.0057, lines 1-6; the telephone calls between the WWAN and WLAN networks). Sundar inherently has the *machine readable storage* medium given that Sundar shows a process, the process would be implemented by a processor that requires a "computer readable storage", e.g. a RAM, to function.

Sundar fails to disclose the step of authenticating the mobile communications device over the wireless network. Ibe discloses a method of seamless roaming between wireless local area networks and cellular carrier networks (abstract, lines 1-6) and teaches that when a mobile device happens to be tuned on in the WLAN goes through an initialization process in which the mobile device sends a registration message to an authentication server that authenticates the mobile device (p.0017, lines 1-8). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to authenticate the mobile communications device over the wireless network as taught by Ibe, since it is part of an initialization process the mobile device has to go through in order to be authorized to receive service from the wireless network.

However, the combination of Sundar and Ibe fails to disclose wherein the initiating comprises causing the mobile communications device to attenuate a signal provided to the cellular network from the mobile communications device, thereby causing the cellular network to handoff the cellular call.

However, these features are well known in the art and Ozluturk is evidence of the fact. Ozluturk teaches a method of handover between of a mobile subscriber unit to a candidate base station requiring less power. The mobile station searches for a candidate base stations to choose one to effect handover, then, when still linked with the original base station the candidate base station sends power control commands to the mobile subscriber unit to lower the transmitting power that causes the mobile subscriber unit to decrease its transmission power (i.e. attenuate transmitted signals). Then handoff is performed from the original base station to the candidate base station (col. 5, line 49 – col. 6, lines 1-7).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to cause the mobile communications device to attenuate a signal transmitted from the mobile communications device to the cellular network and thereby causing the cellular network to effect the handoff, as suggested by Ozluturk, in order to trigger a handoff to a candidate base station that not necessarily has the highest signal strength but is preferred by the mobile communications device.

Regarding claim 44, the claim is rejected over the same reasons stated about claim 8, as it recites the same limitations as claim 8. See remarks about claim 8 above.

Regarding claim 45, the claim is rejected over the same reasons stated about claim 9, as it recites the same limitations as claim 9. See remarks about claim 9 above.

Regarding claim 47, the claim is rejected over the same reasons stated about claim 11, as it recites the same limitations of claim 11. See remarks about claim 11 above.

Regarding claim 48, the claim is rejected over the same reasons stated about claim 12, as it recites the same limitations of claim 12. See remarks about claim 12 above.

12. **Claims 24, 29, and 30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in view of Khartabil et al (US 2004/0249891 A1).

Regarding claim 24, Sundar discloses a system for roaming between a cellular network and a wireless network comprising:

an access point configured to wirelessly communicate with devices and facilitate communications over the Internet (Fig. 15, WLAN 200 has a plurality of access points linked to IP ;

a gateway configured as an interface between the Internet and the cellular network (Fig. 15, WLAN MSC 302);

a mobile data base station configured to communicate with mobile communications devices over a cellular voice channel of the cellular network (Fig. 15, BTS); and

a mobile switching center configured to route cellular calls and link said mobile data base station with said gateway (Fig. 15, WWAN MSC 110);

wherein said gateway and said mobile switching center work cooperatively to switch calls between the cellular network and the wireless network via the Internet (p.0083-0084).

Sundar fails to disclose a Session Initiation Protocol proxy server configured to perform call routing over the Internet and wherein calls over the Internet are managed by said Session Initiation Protocol proxy server. Khartabil teaches that a proxy server is used to create SIP sessions such as Internet telephone calls, multimedia distribution, and multimedia conferences (p.0004). Therefore, it would have been obvious to one having ordinary skill in the art to include a SIP proxy server in the system, because a proxy server assists with the establishment of Internet sessions as taught by Khartabil.

Regarding claim 29, the combination of Sundar and Khartabil disclose the system of claim 24, wherein said gateway further is configured to function as an interface to the public switched telephone network (Fig. 15; WLAN MSC 302, i.e. gateway interfaces with the PSTN network).

Regarding claim 30, the combination of Sundar and Khartabil disclose the system of claim 24, Sundar discloses wherein a call has been established over the wireless network using a streaming session (p.0077, lines 1-8; the mobile station is engaged in a call with the WLAN network), wherein said gateway terminates the streaming session and transfers the call to said mobile switching center, said mobile switching center routing the call to said mobile data base station (p.0078; the handoff of the ongoing call is made from the WLAN to the WAN, when the MS enters a WWAN, it is inherent that the ongoing communication with the WLAN is terminated when the handover occurs to the WWAN).

13. **Claim 25** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in view of Khartabil et al., and further in view of Ibe et al.

Regarding claim 25, the combination of Sundar and Khartabil disclose the system of claim 24, Sundar discloses wherein a call has been established over a voice channel of the cellular network (p.0083, lines 1-3), wherein said gateway receives an invite formatted using Session Initiation Protocol from a mobile communications device having detected the wireless network (p.0084, lines 10-13; Fig. 20, SIP INVITE). Sundar fails to disclose that the system authenticates a Session Initiation Protocol client operating in the mobile communications device. Ibe discloses a method of seamless roaming between wireless local area networks and cellular carrier networks (abstract, lines 1-6) and teaches that when a mobile device happens to be on a WLAN goes through an initialization process in which the mobile device sends a registration message to an authentication server that authenticates the mobile device (p.0017, lines 1-8). Therefore, it would have been obvious to one

having ordinary skill in the art at the time of the invention to authenticate the mobile communications device over the wireless network as taught by Ibe, since it is part of an initialization process the mobile device has to go through in order to be authorized to receive service from the wireless network.

14. **Claim 26** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in views of Khartabil et al., Ibe et al. and, further in view of Chaskar et al. (US 2004/0090937).

Regarding claim 26, the combination of Sundar, Khartabil, and Ibe disclose the system of claim 25, Sundar discloses wherein said gateway acknowledges the session initiation protocol invite (p.0084, lines 13-14; Fig. 20, SIP 200 OK). However fails to disclose to initiate an Internet Protocol streaming session to the mobile communications device. Chaskar teaches that a user while in the coverage area of a WLAN can initiate an Internet session such as a voice over IP (VoIP) call or a multimedia conferencing call (p.0020, lines 1-6). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to setting up an Internet Protocol streaming session over the Internet to the mobile communications device as taught by Chaskar, because a wireless network, i.e. WLAN, support the initiation of Internet sessions.

15. **Claims 27-28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in views of Khartabil et al., Ibe et al., Chaskar et al., Fors et al., and Roach Jr. (US 5,845,211).

Regarding claims 27 and 28, the combination of Sundar, Khartabil, Ibe and Chaskar disclose the system of claim 26, but fails to disclose wherein said mobile switching center handoffs a cellular call to another mobile data base station upon detecting reduced signal power from the mobile communications device and said gateway signals said mobile switching center that a signal of sufficient power has been received via the wireless network, and further wherein said mobile switching center switches the call from the mobile data base station to the gateway. Roach teaches

that in conventional wireless cellular networks call handoff are handled by MSCs and occurs when the wireless system determines a handoff is desirable when a first base station senses a signal below a predetermined threshold and the call is handed off from an original base station to another (col.1, line 47- col.2, lines 1-12) and further the mobile switching center switches the call from the mobile data base station to the gateway (p.0033). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention for a mobile switching center to handoff a cellular call to another base station when detecting a reduced signal power from the mobile communication device as suggested by Roach, because it is a common functionality of the mobile switching center to handoff calls to another base station if a signal quality in the current base station is degraded.

However, Sundar, Khartabil, Ibe, Chaskar, and Roach fail to disclose wherein said gateway signals said mobile switching center that a signal of sufficient power has been received via the wireless network. Fors discloses a method for handoff from a cellular wireless network to a non-cellular wireless network, e.g. WLAN, and describes access gateways that enable such handoffs (abstract, lines 1-5). As a mobile station moves within the coverage area of the WLAN, the MS performs signal strength measurements and at some point determines that a handoff from serving BS to AP, i.e. wireless network. The processor sends a handing request to CAG, i.e. cellular access gateway, and it sends handoff request, i.e. indication of signal with sufficient power from wireless network, to the MSC to trigger inter-MSC handoff procedures. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention for a gateway to signal said mobile switching center that a signal of sufficient power has been received via the wireless network as suggested by Fors, in order for the MSC to initiate the handoff procedures of a call from a cellular to a wireless network.

16. **Claims 15-18, 34, and 51-54** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in views of Chaskar et al and Ozluturk.

Regarding claim 15, Sundar discloses a method of roaming between a cellular network and a wireless network comprising the steps of:

receiving a communication over the cellular network, wherein the communication is sent from a mobile communications device engaged in a wireless call over the wireless network; sending an acknowledgement of the communication to the mobile communications device over the cellular network; initiating a handoff, wherein the established wireless call is switched from the wireless network to the cellular network (Fig. 13; p.0077-0078; the mobile station transmit a handoff required message to the source or serving MSC which passes to the target MSC of the cellular network, the message starts the handoff process of the current call from the WLAN to the cellular network).

However, Sundar fails to disclose authenticating the mobile communications device over the cellular network. Chaskar discloses a method to perform handoff of a mobile station from a WLAN to a cellular network and teaches that the mobile station should first perform authentication and authorization procedures before attempting the inter-technology handoff (p.0020, lines 1-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to authenticate the mobile communication device over the cellular network as suggested by Chaskar, for authorizing the mobile communication device to communicate over the cellular network.

However, the combination of Sundar and Chaskar fail to disclose wherein the initiating the handoff comprises causing the mobile communications device to attenuate a signal transmitted from the mobile communications device to the wireless network.

However, these features are well known in the art and Ozluturk is evidence of the fact. Ozluturk teaches a method of handover between of a mobile subscriber unit to a candidate base station requiring less power. The mobile station searches for a candidate base stations to choose one to effect handover, then, when still linked with the original base station the candidate base station sends power control commands to the mobile subscriber unit to lower the transmitting power that causes the mobile subscriber unit to decrease its transmission power (i.e. attenuate transmitted signals). Then handoff is performed from the original base station to the candidate base station (col. 5, line 49 – col. 6, lines 1-7).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, to cause the mobile communications device to attenuate a signal transmitted from the mobile communications device to the wireless network, as suggested by Ozluturk, in order to trigger a handoff to a candidate base station that not necessarily has the highest signal strength but is preferred by the mobile communications device.

Regarding claim 16, the combination of Sundar, Chaskar, and Ozluturk disclose the method of claim 15, Sundar further discloses wherein the wireless network is configured according to at least one of the 802.11, 802.15.3, or 802.16 communications protocols (p.0021, lines 1-7; a WLAN network according to the 802.xx protocols).

Regarding claim 17, the combination of Sundar, Chaskar, and Ozluturk disclose the method of claim 15, Sundar further discloses wherein said initiating step comprises the step of a mobile switching center sending a communication to a gateway indicating that the mobile communications device has received a signal having a minimum amount of power from the cellular network (p.0078, lines 1-23; the mobile station informs the serving MSC that handoff is required which is an indication that a signal strength of the cellular network has a minimum amount of power

that requires handoff, and then the serving MSC sends a handoff request to the to the target MSC, i.e. gateway).

Regarding claim 18, the combination of Sundar, Chaskar, and Ozluturk disclose the method of claim 17, Sundar further discloses wherein said initiating step further comprises the step of setting up a cellular voice link to which the wireless call is switched (p.0078, 35-50; when handoff is completed the mobile station is on a channel with the target or cellular BSC, therefore after handoff is complete the current cal with the WLAN is transferred to the cellular network).

Regarding claim 34, Sundar disclose a system for roaming between a cellular network and a wireless network comprising: means for receiving a communication over the cellular network, wherein the communication is sent from a mobile communications device engaged in a wireless call over the wireless network; means for sending an acknowledgement of the communication to the mobile communications device over the cellular network; and means for initiating a handoff within said wireless communication device, wherein the established wireless call is switched from the wireless network to the cellular network (Fig. 13; p.0077-0078; the mobile station transmit a handoff required message to the source or serving MSC which passes to the target MSC of the cellular network, the message starts the handoff process of the current call from the WLAN to the cellular network).

Sundar fail to disclose means for authenticating the mobile communications device over the cellular data network. However, Chaskar discloses a method to perform handoff of a mobile station from a WLAN to a cellular network and teaches that the mobile station should first perform authentication and authorization procedures before attempting the inter-technology handoff (p.0020, lines 1-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to include means for authenticating the mobile communication device over

the cellular network as suggested by Chaskar, in order to authorize the mobile communication device to communicate over the cellular network.

The combination of Sundar and Chaskar fail to disclose wherein said means for initiating causing said mobile communications device to attenuate a signal transmitted from said mobile communications device to said wireless network.

However, these features are well known in the art and Ozluturk is evidence of the fact. Ozluturk teaches a method of handover between of a mobile subscriber unit to a candidate base station requiring less power in where the decision of handoff is controlled by the mobile subscriber unit. The mobile station searches for a candidate base stations to choose one to effect handover, then, when still linked with the original base station the candidate base station sends power control commands to the mobile subscriber unit to lower the transmitting power that causes the mobile subscriber unit to decrease its transmission power (i.e. attenuate transmitted signals). Then handoff is performed from the original base station to the candidate base station (col. 5, line 49 – col. 6, lines 1-7).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention, wherein said means for initiating cause the mobile communications device to attenuate a signal transmitted from the mobile communications device to the wireless network, as suggested by Ozluturk, in order to trigger a handoff to a candidate base station that not necessarily has the highest signal strength but is preferred by the mobile communications device.

Regarding claims 51, 52, 53, and 54, the claims are rejected over the same reasons stated about claims 15, 16, 17, and 18 accordingly, as they recite the same limitations of claims 15, 16, 17, and 18. See remarks about claims 15, 16, 17, and 18 above.

17. **Claims 19 and 55** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in views of Chaskar et al. and Ozluturk, and further in view of Pan et al.

Regarding claim 19, the combination of Sundar, Chaskar, and Ozluturk disclose the method of claim 18, but fails to disclose further comprising the step of tearing down a streaming session over which the wireless call took place in the wireless network.

Pan teaches a method and apparatus that enables handover of a mobile station between a cellular network and a wireless network, a media gateway perform handover of a call from one network to another, it establishes two connections simultaneously with both networks (e.g. first call leg and second call leg) and then handovers the communication from the first call leg to the second call leg, and disconnects the first call leg after handover has been completed (abstract; p.0023-0025). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to tear down a streaming session after the handoff is complete as suggested by Pan, because the mobile station does not need to continue the streaming session when handover to the cellular network is successful.

Regarding claim 55, the claim is rejected over the same reasons stated about claim 19, as it recites the same limitations of claim 19. See remarks about claim 19 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marisol Figueroa whose telephone number is (571) 272-7840. The examiner can normally be reached on Monday Thru Friday 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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